

June 30, 2025
Mitsui Chemicals, Inc.

Mitsui Chemicals Launches Highly Oxygen-Permeable InnoCell™ Cell Culture Microplates

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: HASHIMOTO Osamu) today announced that it is beginning sales this July for InnoCell™ cell culture microplates, which offer excellent oxygen permeability. The novel microplates were created by synergizing Mitsui Chemicals' unique materials with the company's precision cutting technologies.

■ Background

To reduce time, save cost, and improve outcomes, the field of drug development is increasingly prioritizing more physiological approaches to drug candidate selection across modalities, from small-molecule drugs to antibodies, nucleic acid drugs, and regenerative medicine approaches such as cell and gene therapies. Further, the U.S. Food and Drug Administration recently announced its intention to phase out animal testing requirements for new drugs, replacing this testing with approaches that evaluate drug safety and effectiveness through the use of new approach methods (NAMs) including organoids (miniature organs cultivated by growing human-derived cells outside the body), spheroids (three-dimensional cell aggregates), and microphysiological systems and AI. Increasing efforts are also being made for the implementation of personalized medicine, which utilizes cells from a patient cultivated outside the patient's body and analyzed to determine the optimal treatment for that patient.

With these emerging new approaches, increased demand is expected for advanced cell culture process components to provide more physiological conditions for drug discovery and screening.

■ What is InnoCell™?



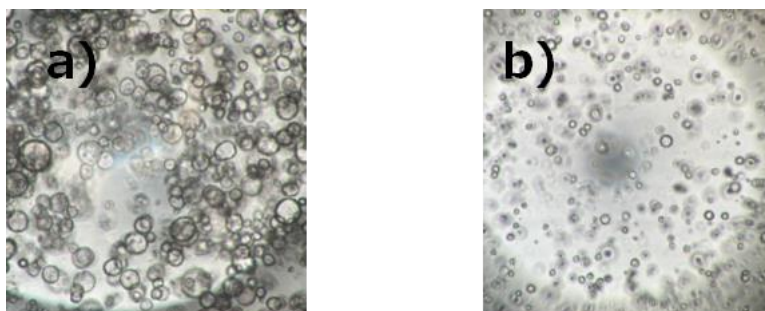
InnoCell®

InnoCell™ is the brand name for Mitsui Chemicals' cell culture products and services, derived from the company's goal of achieving "*innovations in cell culture*." Through such innovations, Mitsui Chemicals is leveraging the power of its proprietary chemicals to provide solutions for drug discovery. With this new product launch, Mitsui Chemicals will offer non-treated "N-type" cell culture microplates suited to the culture of non-adherent cells, organoids and spheroids, as well as collagen-coated "C-type" plates suited for the culture of hepatocytes and other cells used for pharmaceutical assays.

The InnoCell™ plate series enables optimal oxygen supply to cultured cells and tissues. This functionality not only makes it possible to maintain healthy cell cultures for long periods of time but also reduces cell death within 3D spheroids. The functionality of the plates is also

expected to support more predictive in vitro assays for pharmaceutical development. InnoCell™ plates were recently shown to improve the in vitro proliferation of organoids derived from pancreatic cancer patients – something that has been difficult to date – giving them a potential application in faster delivery of personalized medicine to cancer patients.

InnoCell™ plates also feature low drug adsorption and good fluorescence imaging characteristics, including resolution and low autofluorescence. As such, they are expected to provide value for advanced drug screening techniques such as high content imaging and phenotypic assays.



Proliferation of organoids derived from human pancreatic cancer tissue observed after eight days.

a) InnoCell™ N-type plate; b) conventional polystyrene plate.

Images provided by HIRATSUKA Toru, Team Leader, Osaka International Cancer Institute

For further details on InnoCell™, as well as use cases and more, please see <https://jp.mitsuichemicals.com/en/special/innocell/index.htm>

■ **Future plans**

InnoCell™ is expected to contribute to new frontiers in drug discovery, personalized medicine and regenerative medicine, with applications under evaluation for predicting drug efficacy and safety as well as for culture of iPS cells and patient-derived cancer cells. InnoCell™ will deliver innovative solutions to the cell culture field, through which Mitsui Chemicals aims to contribute to life, health and comfortable lifestyles.

As part of its plan to make the medical sector a third pillar of its business, Mitsui Chemicals will pursue further technological innovation by both leveraging its technological foundations and strengthening its ties with partners. This will aid in the company's continued efforts to meet diverse customer needs.

■ **References (related press releases)**

Mitsui Chemicals Invests in Zafrens, a High-Throughput Single-Cell Analysis and Drug Discovery Company (December 13, 2023)

https://jp.mitsuichemicals.com/en/release/2023/2023_1213/index.htm

Mitsui Chemicals Invests in Clinical Kidney Disease Drug Developer Rege Nephro (November 5, 2024)

https://jp.mitsuichemicals.com/en/release/2024/2024_1105/index.htm